

850 THE ATARI 400/800™ COMPUTER SYSTEM INTERFACE MODULE



OPERATOR'S MANUAL

ATARI®



A Warner Communications Company





ATARI® 850™ INTERFACE MODULE OPERATORS MANUAL



A Warner Communications Company

Every effort has been made to ensure the accuracy of the product documentation in this manual. However, because Atari, Inc. is constantly improving and updating the computer software and hardware, we are unable to guarantee the accuracy of the printed material after the date of publication and disclaim liability for changes, errors or omissions.

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Important Information: Like any electrical appliance, this ATARI Home Computer equipment uses and produces radio frequency energy. If it's not installed and used properly according to the instructions in this guide, the equipment may cause interference with your radio and television reception.

It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of the FCC rules. These rules are designed to provide reasonable protection against such interference when the equipment is used in a residential setting. However, there is no guarantee that interference will not occur in a particular home or residence.

If you believe this equipment is causing interference with your television reception, try turning the equipment off and on. If the interference problem stops when the equipment is turned off, then the equipment is probably causing the interference. With the equipment turned on, you may be able to correct the problem by trying one or more of the following measures:

- Reorient the radio or television antenna.
- Reposition the equipment in relation to the radio or television set.
- Move the equipment away from the radio or television.
- Plug the equipment into a different wall outlet so the equipment and the radio or television are on different branch circuits.

If necessary, consult your ATARI Computer retailer or an experienced radio-television technician for additional suggestions.

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INTRODUCTION

This manual contains installation instructions for both the **ATARI® 850™ Interface Module** and the **ATARI 830™ Acoustic Modem**.

ATARI 850 INTERFACE MODULE

The ATARI 850 Interface Module is a valuable addition to your **ATARI Home Computer System**. The four ports on the side of the interface module (marked SERIAL INTERFACE) are RS-232-C compatible. RS-232-C is a computer industry standard. This means that the interface module can be used to connect a variety of peripheral items, including the ATARI 830 Acoustic Modem.

The end port, marked PARALLEL INTERFACE, is used to connect an **ATARI 825™ 80-Column Printer**.

ATARI 830 ACOUSTIC MODEM

The modem is your connection with the "outside world." Used with the interface module, it allows your ATARI Home Computer to communicate with other ATARI Home Computers or with various time-shared computer systems.

SYSTEM REQUIREMENTS

The ATARI 850 Interface Module is used in many different arrangements of the ATARI Home Computer System.

For telecommunications, the user will need an **ATARI TeleLink™ I** cartridge and the ATARI 830 Acoustic Modem.

To use any of the SERIAL INTERFACE ports of the interface module with an **ATARI 810™ Disk Drive**, the user must use the ATARI 810 Master Diskette II (Model CX8104).

No other special equipment or software is required to operate the ATARI 825 80-Column Printer.

The **ATARI 410™ Program Recorder**, the **ATARI 810™ Disk Drive**, the **ATARI 820™ Printer** and the **ATARI 822™ Thermal Printer** will function without the interface module. Devices that are plugged into the front of the computer at the ports labeled CONTROLLER JACKS, such as joysticks or paddle controllers, will also function without the interface module.

INSTALLING THE ATARI 850 INTERFACE MODULE AND PERIPHERALS

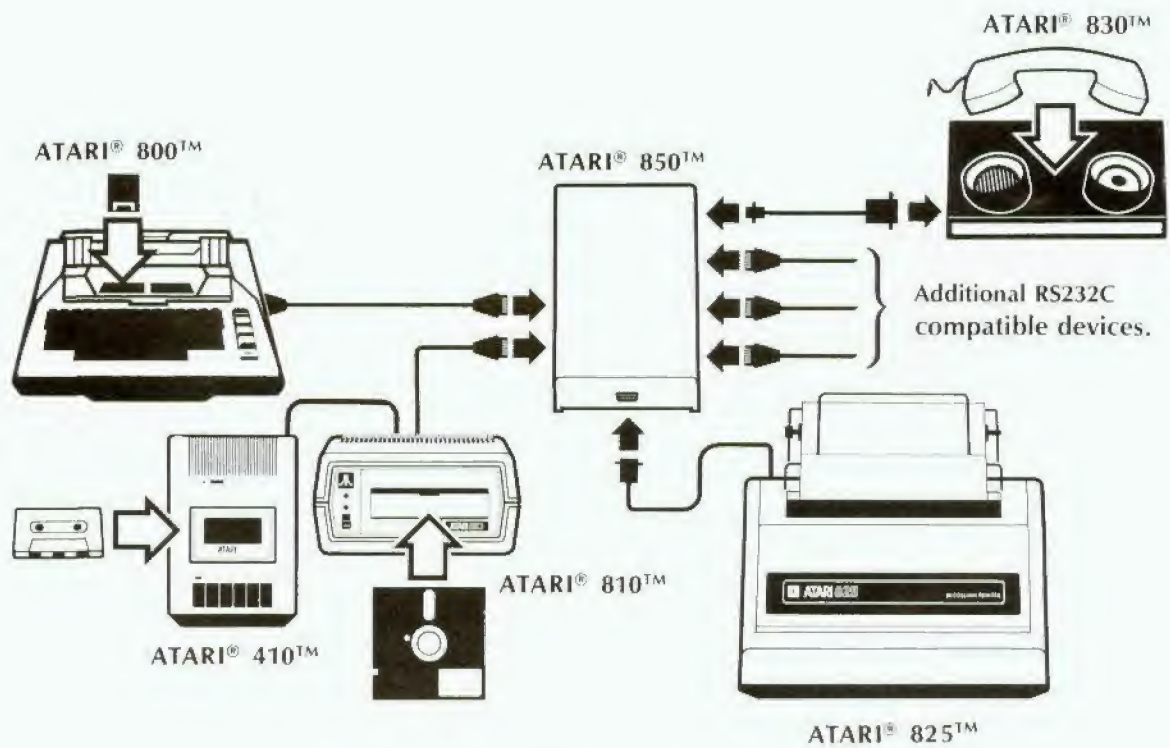


Figure 1 The ATARI Home Computer System

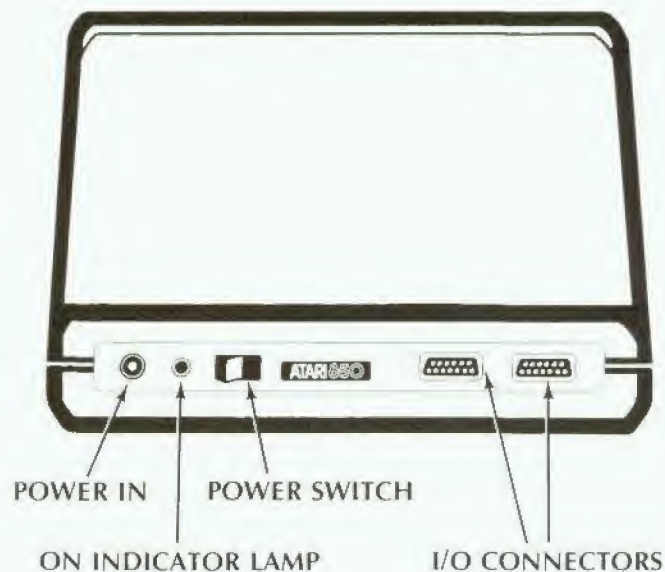


Figure 2 The ATARI 850 Interface Module

Plug an I/O cable into one of the serial ports labeled I/O CONNECTORS on the side of the interface module. Plug the other end into the computer at the port labeled PERIPHERAL, or into the ports labeled I/O CONNECTORS of any other peripheral device, such as a printer or disk drive.

With the power switch in the OFF position, insert the power adapter cord into the front of the interface module at the POWER IN jack and then plug the power adapter into a wall outlet.

ATARI 830 ACOUSTIC MODEM

Move the switch on the end of the ATARI 830 Acoustic Modem that is marked O/A to the center position. This will make sure that the power to the modem is off. Attach the power cord from the modem AC power adapter to the modem and plug the transformer into a wall outlet.

CAUTION: Use the modem power adapter ONLY with the ATARI 830 Acoustic Modem. The use of the modem power adapter with any other ATARI unit may cause serious damage to that unit.

Connect the larger end of the Modem I/O cable to the modem and plug the smaller end into the SERIAL INTERFACE port marked Port 1 on the interface module. There are small screws on each side of both connectors that can be used to permanently attach the connectors.

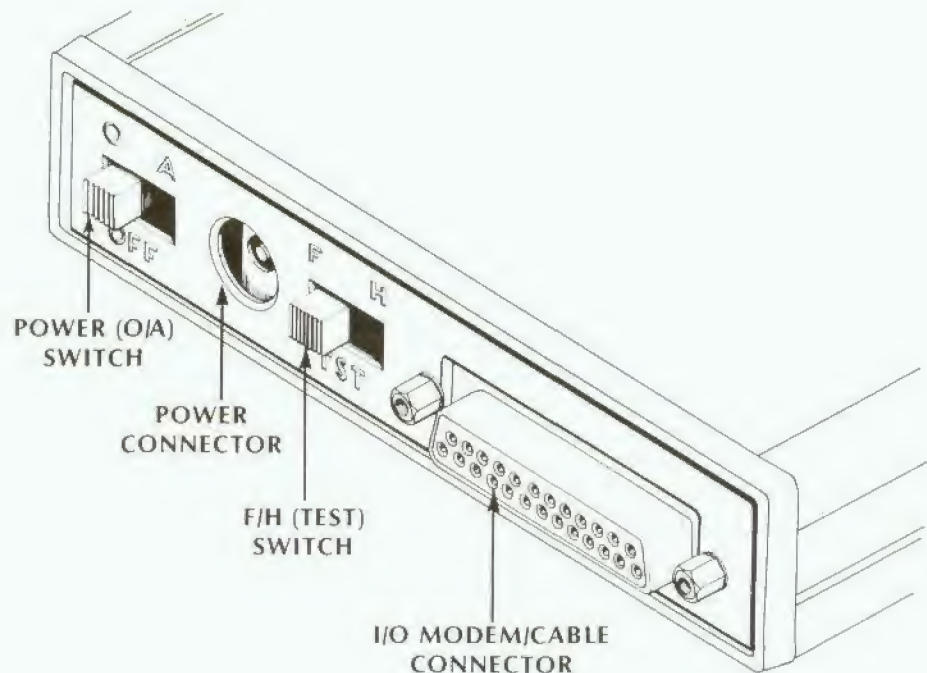


Figure 3 The ATARI 830 Acoustic Modem

Slide the O/A switch to the left, **O** (Originate), or the right, **A** (Answer), position. The red POWER indicator light located on the top of the modem will come on.

ATARI 825 PRINTER

The ATARI 825 Printer is an 80-column, 7x8 dot matrix impact printer. The printer can handle 8 and 1/2-inch x 11-inch cut paper, roll paper, or fanfold paper.

Refer to Figure 1. With the power to the printer off, connect one end of the printer I/O cable to the port marked PARALLEL INTERFACE on the interface module and the other to the Parallel Input Connector on the rear of the printer. The printer connector is correctly attached when the label "This Side Up" is readable. The printer connector will fit in one way only. **Do not try to force the connection.**

Full instructions for the installation and operation of the ATARI 825 80-Column Printer can be found in the *ATARI 825 Printer Operator's Manual*.

HOW TO USE THE ATARI 850 INTERFACE MODULE

In order to use the ATARI 830 Acoustic Modem or the ATARI 825 80-Column Printer, you must use the ATARI 850 Interface Module. This section contains the necessary information to get your system up and running.

ATARI 850 INTERFACE MODULE

Before the interface module can be "recognized" by the computer Operating System (the part that makes the computer work), the computer must be "informed" how to use it. All the necessary information is carried in the interface module. By turning on the interface module *before* the computer, the information is automatically loaded into the computer. This is called "booting" the interface module.

It is not necessary to turn on all ATARI peripheral devices; however, if you intend to use the ATARI 850 Interface Module or the ATARI 810 Disk Drive, they must be turned on before turning on the computer. When turned on, the computer checks to see if the interface module and any other peripheral equipment is "on line" (turned on). If any peripheral is turned off and your computer program tries to access it, an error will occur (in most cases, ERROR 138).

Make a habit of turning on the interface module before turning on the computer.

ATARI 830 ACOUSTIC MODEM

To use the ATARI 830 Acoustic Modem, you must have one of the following cartridges:

- ATARI BASIC (Computer Language) cartridge — Model CXL4002
- ATARI Assembler /Editor cartridge — Model CXL4003
- ATARI TeleLink I cartridge — Model CXL4015

The cartridge must be inserted in the single slot of the ATARI 400 Home Computer or the left slot of the ATARI 800 Home Computer. Turn on the interface module and the modem before you turn on the computer.

To originate or to call another computer, set the O/A switch to O (Originate) and the F/H switch to **F** (Full Duplex) or **H** (Half Duplex) as required by the computer system you are accessing. Dial the telephone number of the other computer or computer system. When you hear the answering tone place the telephone handset into the acoustic muffs with the cord toward the connector.

Full Duplex means that data can be sent and received by both ends of the connection simultaneously. In Half Duplex, data cannot be sent by both ends at the same time. Therefore, one terminal must be able to tell the other terminal, "I'm through now; it's your turn." The second terminal then sends a signal saying, "OK, here I come." This exchange is called "handshaking"; it is simply the sending and receiving of required signals to prepare each end of the connection for the sending or receiving of data. Handshaking can be used in full duplex operation to tell the sending terminal to stop sending until the receiving terminal can catch up.

When the red READY indicator light on the top of the modem comes on, the modem is ready and you may begin your communications.



Figure 4 The ATARI 830 Acoustic Modem

To accept calls to your ATARI Home Computer, manually answer the telephone. Switch the O/A switch to **A** (Answer) and the F/H switch to **F** (Full Duplex) or **H** (Half Duplex) as required. You will hear a high-pitched tone. Place the telephone handset into the acoustic muffs. When the red READY light comes on, proceed with your communications.

It is possible to send data or programs to a friend who has an ATARI Home Computer. Call your friend and decide which of you will set your system to **O** and which to **A**. You both then set your modems to **F** and place the telephone handset in the modem muffs. You can then begin sending programs and data over the telephone lines.

The **ATARI 850 Interface Module Technical Manual** contains ATARI BASIC language programs to send and receive data and programs, as well as a simple program that will allow two ATARI Home Computer users to "chat" with one another.

NATIONAL COMPUTER NETWORKS

Use of the ATARI 830 Acoustic Modem and the ATARI TeleLink™ I cartridge, will make many national computer networks available to you. These networks are accessed through a special modem access telephone number. Each network has its own particular access routine, but they are basically the same. Their computer will ask for your particular access code and a password. You are "logged on", or recognized, by the host computer system by successfully entering the necessary data.

To access most computer networks, set the modem O/A switch to O and the F/H switch to F. Those computer networks and data services that do not use this standard will have the correct modem settings listed in their system documentation.

The following is a brief description of three of these services:

CompuServe Information Service*/MicroNET. Carries stock market, AP wire service, news and features from several major daily newspapers, and many household tips. MicroNET has a National Bulletin Board and Electronic Mail. Other services include individual Bulletin Board services and a computer simulated "CB service." You have a nickname or "handle" and you can listen or join in using your computer as a terminal. There are also many programs and games available to members of the service. You can be billed directly through your VISA or MasterCard.

You get one hour of free service with the ATARI TeleLink™ I cartridge.

Address: CompuServe Personal Computing Division
5000 Arlington Center Blvd.
Columbus, OH 43220
614/457-8600

* Registered trademark of CompuServe, Inc., an H & R Block Company.

Dow Jones/News Retrieval* Service. Provides up-to-the-minute quotations on stocks, corporate and foreign bonds, mutual funds, warrants and U.S. Treasury issues as well as historical quotes and daily news items.

You get one hour of free service with the ATARI TeleLink I cartridge.

For information, call:

800/257-5114 toll free

* Registered trademark of Dow Jones & Company, Inc.

THE SOURCE, AMERICA'S INFORMATION UTILITY*. Carries UPI and has more than 7000 news-service customers who print newspapers, magazines, electronic mail, and market reports. There is a two-way message service called CHAT. A program library is available.

You get one hour of free service with the ATARI TeleLink I cartridge.

Address: Source Telecomputing Corp.
1616 Anderson Rd.
McLean, VA 22102
703/821-6660

* THE SOURCE and AMERICA'S INFORMATION UTILITY are service marks of Source Telecomputing Corporation, a subsidiary of The Reader's Digest Association, Inc.

TROUBLESHOOTING

ATARI 850 INTERFACE MODULE

If you have trouble communicating with a device, check the cable connections first. If you are using the ATARI BASIC Computer Language, try using GET and PUT instead of INPUT and PRINT; sending characters one at a time can give you useful clues to problems. Reread the instructions for the device you are trying to use.

SYMPTOM	POSSIBLE CAUSES
No information sent or received between computers	ATARI 830 Acoustic Modem not turned on ATARI 850 Interface Module not turned on Loose connecting cables
Unable to exchange information between Non-Atari peripherals and ATARI Home Computers This message appears on the screen: RS 232 ERROR: 130	ATARI 850 Interface Module was not turned on before the computer. Turn off both the interface module and the computer. Turn on the interface module, then the computer.
When using the ATARI 825 80-Column Printer this message appears on the screen: ERROR - 138 or ERROR - 139	ATARI 825 Printer not turned on ATARI 850 Interface Module not turned on Loose connecting cable Printer online/local switch in local position

ATARI 830 ACOUSTIC MODEM

If you have problems, the most likely reason is the phone line. Noise on the line or a weak phone line signal can often result in lost or invalid data. Redial the call to ensure that the connection is noise-free and there is no interference.

The ATARI 830 Acoustic Modem has a test mode to verify that the modem is working properly. To test the modem, use the ATARI TeleLink I cartridge. Set the O/A switch for Originate and the F/H switch to TEST. (If there is no tone, the unit is defective. Contact your nearest Authorized ATARI Computer Service Center.) Dial a single digit on the telephone to get a quiet line, then immediately place the handset into the acoustic muffs. Wait for the READY light and then type a message on the keyboard. The TEST function will send the message through the interface module and the modem back to the computer. The computer will display the message on your television screen. Check the television screen for errors.

After the originate test, quickly push the O/A switch to **A** with the telephone still connected to the modem. Wait for the READY light and repeat the test.

NOTE: A quiet line is required to prevent dial tone interference. By dialing one digit, you may only get a quiet line for 30 seconds. You may have to repeat the process. A longer quiet time can be obtained by calling a friend. The mouthpiece of the friend's phone must be covered or removed to prevent room noise interference.

If communication still cannot be established and the modem checks out in the TEST mode, see tables below for other possible causes for failure.

SYMPTOM	POSSIBLE CAUSES
Ready Light Off:	<p>Is modem power ON?</p> <p>Is handset in Proper position? Label indicates direction of cord.</p> <p>Are switches set properly?</p> <ul style="list-style-type: none">• When communicating with a time-share computer the modem should be set to ORIG mode. Modem at remote computer end will be in answer mode.• When communicating with another terminal, mode selection is determined by prior agreement between users. Remember one modem must be in answer mode, the other in originate mode.• For proper communication, F/H switch must be either FULL or HALF, not in TEST.• Is modem at the other end compatible with your modem? Remote modem must be a Bell 103-compatible modem. Communication cannot be established with a Bell-202 type.

Double Character Display:

Is Modem in Half Duplex mode?

- If remote computer echoes all characters the modem should be in FULL Duplex mode.
- If communication system is Half Duplex (no echo), the modem should be in HALF Duplex.

Garbled Display:

Is telephone handset fully seated in the rubber muffs?

Is baud rate correct? Both local and remote terminals must send data at the same baud rate (300 baud or less).

Is received signal too weak or noisy? Pick up handset and listen for a clean tone (if remote modem is in answer mode). If additional tones, dialing pulses, static noise or voices are present, data may be garbled. Dial the call again.


No information sent or received

O/A Switch incorrectly set (see page 10).

Additional troubleshooting suggestions can be found in the *ATARI 850 Interface Module Technical Manual*.



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